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adsorbent contains an H/ β -zeolite having an SiO₂/AlO₃ ratio of 100 or more, and said adsorbent has a honeycomb shape with a hollow central portion at which honeycomb cells are absent extending in the direction of flow of exhaust gas.

REMARKS

The claims have been amended to distinguish over the apparatus for treating an engine exhaust gas stream disclosed in WO 94/11623. The apparatus of WO 94/11623 requires two catalyst zones, a first catalyst zone being provided upstream (with respect to flow of exhaust gas) of an adsorption zone and a second catalyst zone provided downstream of the adsorption zone. Additionally, the apparatus of WO 94/11623 requires means for transferring heat from the first catalyst zone to the second catalyst zone.

Claims 7-22 and 26 of the application have been amended to limit the system for exhaust gas purification of the invention to one consisting essentially of an adsorption zone and a catalyst zone, where the catalyst zone is downstream of the adsorption zone. New claims 27 and 28 limit the system for exhaust gas purification of the invention to one consisting essentially of a first catalyst

zone, an adsorption zone and a second catalyst zone provided in this order in the direction of flow of exhaust gas and not having means for transferring heat from the first catalyst zone to the second catalyst zone. The claims of the application require that the at least one adsorbent of the adsorbent zone contain an H/ β -zeolite having an SiO₂/AlO₃ ratio of 100 or more.

WO 94/11623, taken alone or in any combination with any of the references cited in the final office action dated May 12, 1999, in the parent application, Serial No. 08/726,468, is insufficient to support a rejection for anticipation under 35 U.S.C. § 102 or rejections for *prima facie* obviousness under 35 U.S.C. § 103(a) of the claims as amended of the present application.

No motive is provided to remove the first catalyst zone of the apparatus of WO 94/11623 or to remove the means for transferring heat from the first catalyst zone to the second catalyst zone because such modification will destroy the invention on which WO 94/11623 is based.

Moreover, the person of ordinary skill in the art cannot reasonably predict the superior thermal properties of an adsorbent containing an H/ β -zeolite having an SiO₂/AlO₃ ratio of 100 or more

when used in the system for exhaust gas purification of the present invention in which the thermal demands on the adsorbent are significantly greater than the thermal demands on the adsorbent in the apparatus of WO 94/11623. A cooling effect of the adsorption zone can be expected in the system of WO 94/11623 in which an exhaust gas from a first catalyst zone, prior to entering an adsorption zone, is cooled by heat exchange with exhaust gas entering a second catalyst zone. This must be contrasted with the in-line system according to the present invention in which the adsorption zone is apt to be exposed to a high temperature, as is discussed on page 2, lines 15 to 23, of the present specification.

The unexpected superior thermal properties of the adsorbent of the apparatus of the present containing an H/ β -zeolite having an $\text{SiO}_2/\text{AlO}_3$ ratio of 100 or more are demonstrated by the data of Table 1 of the present application. These data are illustrated in the attachment to this response. In the attachment, labelled "Sheet 1", "SAR" means $\text{SiO}_2/\text{AlO}_3$ ratio. The data under each SAR value is the percentage surface area retention calculated from the data in Table 1 for adsorbents J(25), K(95), A(110), B(210) and C(290) and adsorbent-catalysts F(50) and G(150), respectively.

CONTINUATION APPLICATION OF
Serial Number 08/726,468
SECOND PRELIMINARY AMENDMENT

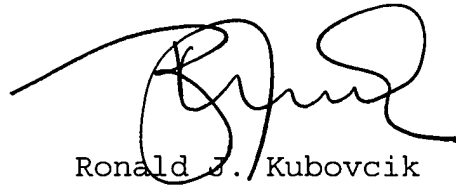
PATENT

Claims 7-22 and 27 and 28 are believed to be patentable under 35 U.S.C. § 102 and 35 U.S.C. § 103(a) over the art of record in the parent application. An allowance of these claims is believed to be in order and is respectfully solicited.

In the event any fees are required in connection with this amendment, please charge our Deposit Account No. 111833.

Respectfully submitted,

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Attachment: Sheet 1

Sheet 1

Treatment Temperature

SAR
 beta-750°C
 beta-850°C
 ZSM5-750°C
 ZSM5-850°C

25	95	110	210	290	50	150
20	29	77	83	94		
5	11	56	80	86		
					85	90
					71	77

